Delta Cost PROJECT
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Benchmarking Attrition

What Can We Learn From Other Industries?

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American Institutes for Research®

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INTRODUCTION

This brief summarizes Internet-based research into other industries that may offer useful analogies for thinking about student attrition in higher education, in particular for setting realistic benchmarks for reductions in attrition. Reducing attrition to zero or close to zero is not a realistic possibility in higher education. Students are adults, with complicated lives. They are at least partly responsible for their own success, something the public seems to understand and agree with: In a recent survey, 70 percent of adults said students bore at least some of the blame for low graduation rates (Associated Press/ Stanford University, 2010). While more can and should be done to inform the choices they make, and to set expectations for degree attainment rather than attrition, some level of attrition is inevitable.

In looking for examples from other human-capital or service industries that might provide some insight into ways to benchmark attrition in higher education, we were particularly interested in those industries where losses from attrition would translate into tangible costs. In these instances, the industries would both have reason to measure the costs of attrition as well as incentives to reduce them.

MILITARY RECRUITMENT AND RETENTION

The U.S. Department of Defense monitors attrition patterns for military recruits by defining "attrition" as the failure of an enlistee to complete his or her contractual obligations. Studies of military attrition (U.S. General Accounting Office [USGAO], 1998) show that approximately one-third of all first-term enlistees do not complete their first term of service, with 11 percent leaving before completing six months of training, and the remaining 20 percent sometime after that (USGAO, 1998).

Because the cost of recruitment is approximately $11,000 per recruit, with basic training adding another $35,000 per recruit, the military pays a lot of attention to ways to reduce such costs, through improvements in recruitment and basic training. Using fiscal year (FY) 1993 cost estimates, USGAO (1998) calculates that the military services spent $1.3 billion on the 72,670 enlistees who entered the services in FY 1993 and departed prematurely. Approximately $0.8 billion of the $1.3 billion was spent on enlistees' pay and allowances; the remaining $0.5 billion was spent on the Services' recruiting and training infrastructure, which includes recruiting and training sites, instructors, and recruiters.

Analyses of factors contributing to attrition found that in the first six months of enlistment, attrition is primarily related to medical/physical problems (prior and newly developed), separations for fraudulent or erroneous enlistment, and separations for performance problems, such as failure of the physical training test, loss of motivation, or inability to adapt to military life (USGAO, 2000). More than 70 percent of men separated for misconduct, medical conditions, performance problems, or drug use, while more than 71 percent of women separated for pregnancy, medical problems, misconduct, performance problems, or parenthood (USGAO, 1998).

In looking for ways to reduce attrition costs, military analysts have focused on ways to target recruitments to increase the probability of recruiting individuals most likely to be successful—analogous to changing admissions requirements to get more qualified students in higher education. Not surprisingly, the types of attributes that correlate with success in the military context also are common themes in higher education

success; a prior history of successful employment, education, and age influence military attrition. High school graduates have markedly lower attrition than nongraduates. Older recruits are more prone to early attrition than are younger recruits, with a one percentage point increase for each year beyond age 17 at enlistment (RAND Corporation, 1985).

MILITARY REENLISTMENT

The military also pays attention to factors that influence reenlistment decisions for enlisted men and women upon completion of their first term of service, as they can save on training and recruitment costs by extending service for reenlistees. We found descriptions of a number of models used to track the causes and types of reenlistment decisions, all used by the military to evaluate how best to target their reenlistment efforts. Use of these models has helped the military to calculate the effect of selective reenlistment bonuses (SRBs) on retention, and to assess the relative returns from SRBs versus other salary increases.

The result of the analyses has been the discovery that targeted use of SRBs is a cost-effective way for the Army to meet its recruiting and retention goals, more so than either salary increases or new recruits. Bonuses are more cost-effective than pay but less cost-effective than recruiters as a way to expand the market for the Army. The marginal cost of enlistment is estimated to be $44,900, compared with $57,600 for pay or $33,200 for Army recruiters (Asch et al., 2010). For several reasons, bonuses are always likely to be more cost-effective than across-the-board increases in military pay; they can be targeted at occupations and zones, applied to a given interval of service (e.g., the reenlistment period), and vary in amount. In comparison, an across-the-board pay increase applies to all occupations, not just those with an impending shortage, and creates a higher pay floor, which might mean higher pay costs in all future years. Because pay must be raised for everyone, not just reenlistees in critical occupations, the costs associated with changes in pay are large and substantially more than the costs associated with reenlistment bonuses. As a result of these analyses, the funding of SRBs for active-duty personnel more than doubled between 2003 and 2008. This allowed the Army to “save” more than 20 percent in their new recruitment budget, a reduction of nearly 26,700 new enlistments that became possible because of the increases in reenlistments.

CRIMINAL RECIDIVISM

The rising cost of incarceration, and the high rates and costs of recidivism among prison parolees, has elevated public and policy attention to ways that recidivism can be reduced. Recidivism is not an exact analogy to postsecondary attrition, but it represents a kind of leakage as a measure of the "failure rate" of prison in either keeping previously incarcerated people from committing crimes or coming back to prison. Recidivism adds more than $6 billion annually to incarceration costs across states.

The 2011 Pew Center on the States study of recidivism found that the overall rate of recidivism around the country had been relatively stable, at about 41 percent over the prior decade. Measures of recidivism vary slightly among states, as do laws on the types of violations that require reincarceration. The estimated costs of incarceration for recidivists are enormous, with average annual costs per inmate now more than $22,000 per year. The Pew Center estimates that a 10 percent reduction in incarceration would generate more than $635 million annually in real savings. As states have seen the share of state spending on prisons more than double in the last decade—now outstripping spending for postsecondary education in a number of states—interest in reducing recidivism has increased. Fortunately, a number of strategies are proving to be cost-effective ways to reduce the probability of recidivism, including comprehensive support for parolees, prerelease advising, and the creation of incentives for offenders to succeed.

CLINICAL RESEARCH PARTICIPANT DROPOUT

Clinical research is another area that may present useful analogies to the identification and management of attrition within higher education. In this area, "attrition" occurs when participants in surveys or clinical research drop out of the study before it is completed. Because excess participant turnover can invalidate the survey, and because participant recruitment is a major part of the research cost, this is an area where the sponsor of the test has a strong incentive to find ways to identify the causes of attrition and reduce them.

Average participant dropout rates hover at about 32 percent for weight-loss and lifestyle research, with higher rates of nonresponses or nonreturns prevalent among other types of survey research. The literature reports predictable patterns of higher rates of attrition associated with certain demographic characteristics of respondents: Younger participants, females, divorcees, single parents, and unemployed and poorly educated individuals are most likely to drop out during the course of a study (Gonder-Frederick, 2008).

Because of the importance of retaining participants to the success of the trials, there has been a good deal of attention given to the causes of dropouts and ways to provide incentives to participants to remain in the studies. Causes of attrition include competing life demands, requirements of the study, and lack of motivation/commitment. Strategies for increasing participation embrace a shift from a provider-research focus to more of a customer-service approach to make it more convenient for participants, including transportation or transportation vouchers, flexible appointment hours, home visits, and preappointment outreach. Some of the literature suggests that spending on incentives to retain participants is less costly than expanding the initial sample size.

EMPLOYEE TURNOVER

Although not exactly analogous to student attrition, the topic of employee turnover and ways that employers can reduce excess turnover is relatively well researched. Nationwide, employee turnover is estimated to average 12 percent annually, with costs to employers estimated to run between 20 percent and 200 percent of average salaries. Investments in recruitment, training, and more attention to performance review all have been shown to contribute to lower turnover. Analytics have been generated for employers to use to calculate the trade-off between higher investments in employee retention (e.g., recruitment, job training, more attention to position descriptions and performance reviews, and changes in working conditions, including compensation) versus absorbing the costs of continued high turnover and subsequent rerecruitment. A number of calculators have been generated to help employers to document the cost of turnover, so they may be in a better position to evaluate these trade-offs. Several examples are available on the Web, including one generated at the University of Wisconsin–Extension Center for Community and Economic Development (http://www.uwex.edu/ces/cced/economies/turn.cfm) and another from the Center for Economic and Policy Research (http://www.cepr.net/calculators/turnover_calc.html). The methodology for documenting these costs could be adapted to colleges and universities to assess the trade-off between the cost of attrition and the cost of increasing advising and student services, or to reduce class size as strategies to increase student attainment.

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About the Delta Cost Project

The Delta Cost Project at American Institutes for Research provides data and tools to help higher education administrators and policymakers improve college affordability by controlling institutional costs and increasing productivity. The work is animated by the belief that college costs can be contained without sacrificing access or educational quality through better use of data to inform strategic decision making. For more information about the Delta Cost Project, visit **www.deltacostproject.org.**

About American Institutes for Research

Established in 1946, with headquarters in Washington, D.C., and offices across the country, American Institutes for Research (AIR) is an independent, nonpartisan, not-for-profit organization that conducts behavioral and social science research, and delivers technical assistance both domestically and internationally in the areas of health, education, and workforce productivity. As one of the largest behavioral and social science research organizations in the world, AIR is committed to empowering communities and institutions with innovative solutions to the most critical education, health, workforce, and international development challenges.

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